REMARKS

This is intended as a full and complete response to the Final Office Action dated October 19, 2005, having a shortened statutory period for response set to expire on January 19, 2006. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-25 are pending in the application. Claims 1-25 remain pending following entry of this response.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 4, 5, 8-11, 14, 17, and 18 are rejected under 35 US.C. l03(a) as being unpatentable over prior art of record US. Patent 6,154,857 to *Mann* in view of "Gprof: A call graph execution profiler" by *Graham et al.* (hereinafter *"Graham"*). Applicants respectfully traverse the rejection.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the first and third criteria, as described below.

With respect to the third criteria, the Examiner states that *Mann* teaches "counting instructions for automatically counting a number of times each breakpoint in the application is encountered" at Figure 2, Item 219, and in the associated text. However, the cited portions are in fact directed to a trigger control register used to stop a counter. *See* Col. 13, Lines 51-55, referring to Fig. 6A. The trigger control registers 219 are configured to start and stop a counter that measures lapsed time of execution for specified procedures. *See* Col. 13, Lines 41-42. A first on-chip trigger control

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register 219a is configured to trigger (start) a first counter upon entry into a specified procedure. *See* Col. 13, lines 51-60. The second trigger control register 219b is used to stop the counter. *Id.* When the stop trigger is generated as specified by the second trigger control register 219b, the count value of the first counter is placed in the trace cache 200 using a TCODE=1010 trace entry. *Id.*

Thus, the counter value placed in the trace cache in *Mann* (where TCODE=1010) describes *"a lapsed time of execution for specified procedures"*, and not a number of times a breakpoint in an application is encountered. *See id;* Col. 13, Lines 41-42; Figs. 6A-6B. *Mann* does not suggest "counting instructions for automatically counting a number of times each breakpoint in the application is encountered" as asserted by the Examiner. Accordingly, the references, alone or in combination, do not teach the claimed element, as asserted by the Examiner. On this basis alone the rejection is improper and withdrawal of the rejection is respectfully requested.

Also with respect to the third criteria, the Examiner states that *Graham* teaches a number which is increasing and, at any time during a test run, always reflects a current number of times a given breakpoint has been encountered during the test run at Section 3.1 on pages 121-122. However, the cited section is in fact directed to *counting the number of times a profiled routine is called.* *See* Pg. 121, Col. 2, Para. 5. The count is associated with an arc in a call graph rather than a routine. *See id.* Accordingly, *Graham* merely describes counting the number of times a routine is called and does not describe counting a number of times a given breakpoint has been encountered. As described above and stated by the Examiner, *Mann* also fails to describe counting a number of times a given breakpoint has been encountered. Accordingly, the references, alone or in combination, do not teach a number which is increasing and, at any time during a test run, always reflects a current number of times a given breakpoint has been encountered during the test run, as asserted by the Examiner. Withdrawal of the rejection is respectfully requested.

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With respect to the first criteria, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use *Graham's* teaching of counting routine invocation with *Mann's* breakpoints. However, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to make the combination suggested by the Examiner because *Mann* teaches away from the suggested combination. *See* MPEP Sec. 2143.01-02. *Mann* utilizes special hardware, referred to as a trace cache, to gather information concerning the execution time spent in selected procedures. *See* Col. 2, Lines 35-43. *Mann* goes on to state that performance profiling information is thereby gathered *without instrumenting code, negatively impacting program execution speeds. See id.* In contrast, *Graham* teaches that routine calls or statement executions can be measured by having a compiler augment the code at strategic points, *e.g.,* with inline increments to counters. *See* Pg. 121, Col. 1, Para. 4. **Thus, *Graham* suggests the use of instrumentation code for measuring routine calls, whereas *Mann* teaches away from such code. *See id.* The combination suggested by the Examiner would make system in *Mann* unsatisfactory for its intended purpose and/or change the principle of operation of *Mann*,** *i.e.,* gathering profiling information without instrumenting code. *See* MPEP Sec. 2143.01. Accordingly, there is no suggestion or motivation to combine the references as asserted by the Examiner because the references teach away from the suggested combination. *See* MPEP Sec. 2143.02. Therefore, Applicants respectfully submit that the first criterion of the *prima facie* case of obviousness has not been satisfied. Withdrawal of the rejection is respectfully requested.

Claims 2, 3, 6, 7, 13, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mann* and *Graham* as applied to claims 1, 4, 5, 8-11, 14, 17, and 18 above, and further in view of prior art of record US. Patent 5,321,828 to *Phillips et al.* (hereinafter *"Phillips"*).

Claim 15 is rejected under 35 U.S.C. 103 (a) as being unpatentable over *Mann* and *Graham* as applied to claims 1, 4, 5, 8-11, 14, 17, and 18 above, and further in view of prior art of record U.S. Patent 5,367,550 to *Ishida*.

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Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mann, Graham,* and *Philips* and further in view of prior art of record US. Patent 6,182,208 to *Peri et al* (hereinafter "Peri").

Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mann* and *Graham* and further in view of prior art of record US. Patent 4,080,650 to *Beckett.*

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Mann, Graham, Philips* and *Beckett.*

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Mann, Graham, Beckett,* and *Peri.*

Applicants respectfully traverse these rejections. Each of the above rejections under 35 U.S.C. § 103(a) incorporate Examiner's 35 U.S.C. § 103 rejection with respect *Mann* and *Graham.* The 35 U.S.C. § 103 rejection based on *Mann* and *Graham* is believed to be overcome for the reasons stated above. Accordingly, each of the additional rejections under 35 U.S.C. § 103(a) are also believed to be overcome. Withdrawal of the rejections is respectfully requested.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

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Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

If the Examiner believes any issues remain that prevent this application from going to issue, the Examiner is strongly encouraged to contact Gero McClellan, attorney of record, at (336) 643-3065, or the undersigned attorney to discuss strategies for moving prosecution forward toward allowance.

Respectfully submitted,

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